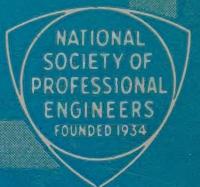


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PRESIDENT'S MESSAGE

By A. W. NEUREUTHER

Here we are in January, 1958, in the midst of the inter activity for I.S.P.E. The final quarter of the 3rd year of the Illinois Society lies ahead, and this seems a good time for inventory and appraisal.

By this time most of the new chapter officers have been elected and installed. We congratulate them and wish them great success in their administrations!

This brings to mind that I.S.P.E. is then ready for the chapter officers' training conference to be held February 1, 1958 at Peoria. This is one of the finest meetings of the year for the Society since it brings together chapter officers from all over the state for indoctrination and training. This provides most of the uniformity of practices by the autonomous chapters, which provide the solidarity of the state Society.

Just ahead lies Engineer's Week from February 16 to 22, 1958. Here is a real opportunity to help the engineering profession through activities and publicity in each of the chapter areas. We are fortunate that the national emphasis on the importance of engineers augments the efforts of the national Society and the individual chapters to make Engineer's Week virtually a national celebration.

The last quarter of the year is the time for committees to complete their work and to prepare their final reports to the Board of Direction in plenty of time for publication and distribution prior to the annual meeting. This procedure expedites the annual meeting and leaves more time for other important matters.

It is time, too, for each functional section to arrange its annual meeting program and plans for participation. The functional sections are in a place to provide a program of interest for every engineer at the annual meeting; and thus achieve one of the Society goals to have better, more interesting, entertaining, educational programs at our annual meetings.

The 73rd annual meeting plans are under way. Both the Central Illinois Chapter and its Ladies' Auxiliary are making plans for an exceptionally fine annual meeting.

(Continued on page 2)



A. W. Neureuther

VOX SECRETARII

By P. E. ROBERTS, Executive Secretary

73rd Annual Meeting

Plans for the entertainment of those belonging to the Illinois Society and their ladies at the 73rd Annual Meeting are being completed. General Chairman John Castle has a hard working committee working together in order that you will have an extra good time in Decatur on April 10, 11 and 12th. Ladies entertainment at Annual Meeting during the last few years has been better and better. Decatur will be no exception. N.S.P.E. President Garvin Dyer will be the Friday Luncheon speaker and a nationally known industrialist has tentatively agreed to be the 73rd Annual Banquet Speaker. Look for the program in the February Issue.

Chapter Officers

Eight of the sixteen Chapters have held their Annual Chapter Meeting, elected 1958 Officers and notified the

1958 Election Results

The Tellers Committee met on Wednesday afternoon, January 8, counted and tabulated the ballots. The results are as follows:

For President—Frank W. Edwards	722
For Vice-Pres.—Donald S. Magowan	723
For Sec.-Treas.—A. Douglas Spicer	283
James P. Murphy	443
For Natl. Director—Dwain M. Wallace	370
C. J. McLean	632
Melvin Amstutz	591
Robert A. Brown	545
Ballots not identified	42
Ballots spoiled	4
Total Ballots	775
Total Corporate Members on Dec. 5	1604

CONTENTS OF THIS ISSUE

President's Message	1
Vox Secretarii	1
1958 Election Results	1
Should Illinois Irrigate?	3
Cover Picture Story	9
Obituary	8
John Duba—Assistant Chicago Mayor	9
Unions at Westinghouse Rejected	11

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Executive Secretary's Office. To all Chapter Officers both continuing in office and new, may your Chapter enjoy its greatest year of activity under your leadership. The date and place of the Chapter Officers Conference will have been set as you read this. The Board of Direction met in Decatur on January 11th settling this and other matters of significance to the members of the Society.

National Engineers Week

National Engineers Week is February 16-22, 1958. This is one Chapter activity which is worth every bit of effort which it takes to put it on. Not only is the publicity gained by the various projects in connection with the Week valuable but also worthwhile are the participation by many Chapter members in organizing meetings, distributing posters, speaking at luncheon clubs, advising high school students, selling Engineers' Week buttons and the numerous other Chapter activities engaged in during Engineers' Week.

Membership

Membership totals continue to climb. On December 20th the break-through of the barrier of 2,000 was made. From the standpoint of time, this break-through was more difficult to accomplish than the breaking of the sound barrier. For over ten years the objective each year has been to show a total number of members over 2,000. Now that the first hurdle has been cleared, the next leap is 4,000. This "two-ton" objective is not as remote as it might at first seem. Subtracting those registered in Illinois and living in other states and subtracting the present members of the Illinois Society, there are approximately 11,000 Registered Professional Engineers residing in Illinois who are not members of the Illinois Society. It seems reasonable that 18% of the potential members could be sold on helping to preserve their chosen profession through their membership in their professional society, The Illinois Society of Professional Engineers.

New Phone Number

Champaign-Urbana is becoming a metropolitan community. On December 22nd, telephone numbers were changed to the 2-5 system, that is, two letters and five digits. The Society's phone number is now FLeetwood 6-3220.

Miscellany

May you and all of those belonging to the Illinois Society have a Happy, Prosperous New Year!

73rd ANNUAL MEETING

HOTEL ORLANDO, DECATUR

APRIL 10, 11 & 12

PRESIDENT'S MESSAGE (continued)

(Continued from page 1)

We need to be reminded that the 1958 objectives of I.S.P.E. are the same as the objectives so aptly enumerated by Past President Johnson. Although progress has been made, the Society is still short of these perpetual goals:

No. 1. Membership promotion.

Here progress has been made. In 1957 the greater increase in membership in nine years has occurred. But we need *more* members.

No. 2 Improvement of Chapter Activities.

Every member can assist in the activities of his chapter to make a more enjoyable program for everyone at chapter level. Here the individual member can more readily see and feel the impact of I.S.P.E.

No. 3. Improvement of registration laws.

The past session of the legislature was very successful from the standpoint of I.S.P.E. We should now be planning ahead for the objectives to be reached in the next session of the legislature in 1959.

No. 4. Program improvement for annual meetings.

Functional sections can do a lot in this respect.

No. 5. Better committee performance.

It's too early now to evaluate the 1957 performance the action should be taking place now.

No. 6. Professional improvement for engineers individuals.

Real progress has been made, and further progress will be made if N.S.P.E. can work out an acceptable cooperative plan with A.I.E.E. and the other founded societies. We should do our part.

No. 7. To encourage participation of engineers in civic affairs.

More and more engineers are serving on school board advisory and Association of Commerce committees as well as many others to improve their local communities.

The success of the Illinois Society depends upon the faithful execution of appointed tasks by the individual members. If you have an assigned task, now is the time to take action to get the job done. It is typical of engineers that, when they have a job to do, they do it.

In January, 1958, the time is *now*. Let's get the job done!

Dates to remember:

N.S.P.E. Annual Meeting, St. Louis, June 12, 13 & 14
American Power Conference, Hotel Sherman, Chicago
March 26, 27 & 28

I.S.P.E. Annual Meeting, Hotel Orlando, Decatur, April 10, 11 & 12.

N.S.P.E. Board Meeting, East Lansing, Mich., February 16 & 17

N.S.P.E. State Presidents' Conference, Purdue University
March 7 & 8

SHOULD ILLINOIS IRRIGATE?

RALPH C. HAY¹

During the past decade the possibility of widespread use of irrigation in the Middle West has attracted much attention. Engineers and agricultural scientists are frequently being confronted with questions regarding the feasibility and application of irrigation to Illinois agriculture. Some optimistic proponents predict that the time is approaching when it will become a general practice on Illinois farms. Engineers in particular have an interest in irrigation, since it not only involves utilization of large quantities of water but also requires sizable quantities of power, machinery and skilled labor in irrigation operations.

FAVORABLE FACTORS

There are a number of good reasons why this interest in irrigation has developed. A discussion of these factors may help to clarify the situation.

(1) The rapid development of agricultural technology has made possible tremendous advances in improvement of soil fertility, crop varieties, mechanization, and management. Increased use of commercial fertilizers has brought Illinois to the first place in soil testing laboratories and it is also a leading state in the use of commercial fertilizers. Hybrid corn had come into widespread use, and improved varieties of soybeans and nearly all other crops have also come into general use. More recently chemical weed control and new improved chemicals for insect and disease control have reached nearly every farm. Mechanization has progressed not only in making all field operations completely mechanized with tractor power, hydraulic controls, and self-propelled machines; but it has also extended to the farmstead with power handling of products and dehydration of field crops for more timely harvesting and improving quality. All these developments have been accompanied by a higher level of management on farms which has brought about reduced man hours per acre and reducing operating costs. Thus it seems quite reasonable to suggest that the next major improvement may be in the direction of controlled water supply or irrigation for Illinois farm crops.

(2) Abnormally dry seasons with low rainfall during the growing season has produced crop failures and poor crops, particularly in southern and western Illinois in the years 1954 and 1955. Without question, an adequate supply of water applied at the right time would have prevented some crop failures and materially increased yields in many other cases. The few farmers who had irrigation equipment and used it properly found this practice highly profitable in these areas.

(3) Publicity and active sales organizations for pump and irrigation manufacturers have served to arouse con-

siderable interest in irrigation. Several suppliers and manufacturers of irrigation equipment from the western states have set up mid-west offices in recent years. Popular magazines have also given irrigation considerable attention. Considerably more interest and use of irrigation has developed in some neighboring states so that examples of profitable irrigation enterprises in Michigan, Indiana, and Iowa have been used to an advantage in Illinois. Some agricultural engineers and agronomists have given irrigation practices considerable attention.

(4) Improved irrigation equipment made available recently has also had a decided influence. The lightweight, quick-coupling, portable aluminum pipe, which is now in common use, came as the result of an abundant supply of aluminum. It has served to considerably reduce labor requirements in moving irrigation pipe. In addition, numerous types of moving equipment to eliminate carrying of pipe have also been introduced. Efficient, compact, direct-coupled motor-pump units, and also centrifugal pumps made for direct mounting on farm tractors with power take-off drive are available. Giant gun sprinklers that will irrigate several acres per sprinkler at one setting, have also come into use. In surface irrigation the improved land leveling and smoothing equipment, ditchers, plastic siphon tubes for furrow irrigation, and the use of sheet plastic for lining ditches and sealing gates are also in use.

A survey made by the Department of Agricultural Engineering in 1956 and 1957 indicated that there are now about 365 farm units in Illinois with irrigation systems suitable for irrigating a maximum of about 17,000 acres. This represents only about one farmer in 500. Furthermore, not all these farmers necessarily are using their irrigation equipment in any one year and they are not irrigating the total acreage available for this practice. This number is about double that found in 1951 by W. J. Roberts in Report of Investigation No. 11, "Irrigation in Illinois." His report located 164 irrigation systems where water was pumped at that time.

UNFAVORABLE FACTORS

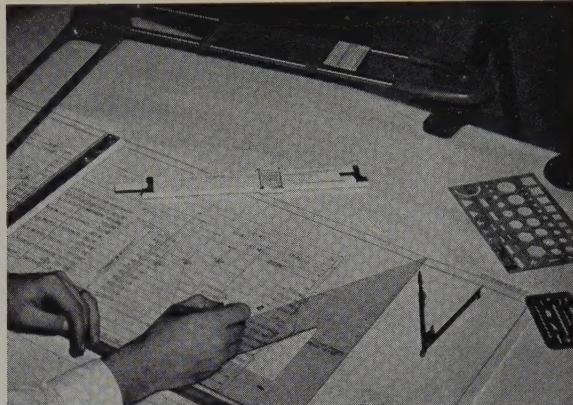
It would appear that irrigation has not come into widespread use in Illinois. There are a number of reasons that have kept irrigation from becoming a popular practice, in widespread use. These must be considered in order to fully understand the situation.

(1) At the present time Illinois farmers generally measure water in gallons per hour in their farmstead water supply systems designated for supplying water for livestock and their domestic needs but entirely inadequate for irrigation. This has discouraged many farmers from attempting its use. Water from surface sources is available only in a limited number of locations when it can be taken directly from streams and lakes. Farm

¹Professor of Agricultural Engineering, University of Illinois, Member ISPE.

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sunds in common use, particularly in southern and western Illinois are rarely of sufficient capacity to irrigate more than family garden. Ground-water supplies, available at a reasonably shallow depth, are not generally found. The strata supplying water for municipalities and industry in large quantities may also be used for irrigation; however, few farmers are prepared to make the necessary investment for such deep wells. Water distribution systems such as found in the western states would require irrigation districts and the use of irrigation water by practically all the land owners of the area concerned.

(2) Increasing demands for water for industrial and municipal uses have led to actual discouragement of irrigation on the part of some engineers, other authorities, and agencies who advise farmers. It is of particular concern to engineers to note that water used for irrigation provides little recoverable water. This means that practically all the water pumped on fields for irrigation is lost in evapo-transportation directly into the atmosphere and is available only on its return in the hydrologic cycle. This is in marked contrast with municipal and industrial water which is returned to the streams through drains, sewage plants and other disposal systems so that it is recoverable and may be used again in locations below. Questions regarding the right of land owners to use water for irrigation are not adequately or completely defined under present Illinois laws. This uncertainty has discouraged some farmers from attempting to use irrigation even under favorable conditions.

(3) The climate of Illinois normally provides considerable rainfall during the growing season but at least 50 per cent more water is required to produce high corn yields than that from normal rainfall in June, July, and August. At Urbana the average rainfall during this period is 10.5 inches, but 15 to 20 inches will be used by the corn crop. However, additional water stored in the soil generally more than makes up this difference so that the average annual rainfall produces sufficient water for maximum yields of corn, soybeans and other major field crops.

(4) The better silt-loam and clay-loam soils of Illinois are predominantly high in capillary water holding capacity, ranging from 9 to 13 inches of available capillary water to a depth of 5 feet, provided, of course, that the soil profile is saturated at the beginning of the growing season. Furthermore, with proper drainage most of these soils provide deep root zones capable of supplying moisture to a depth of 5 feet or even greater.

Good evidence of these factors mentioned above is shown by recent experiments by Peters and Russell at Urbana. They have grown corn in plots covered with plastic sheets which not only prevented any water intake during the growing season, but also prevented nearly all direct evaporation from soil moisture from the surface. Under these conditions corn yields have been more than 100 bushels per acre or essentially the same as corn production under natural conditions. This would tend to

substantiate the statement that Illinois soils can hold sufficient water to produce a corn crop provided that water lost by evaporation can be conserved. This offers another challenge in determining practical methods of reducing evaporation and increasing the efficient use of natural soil moisture.

(5) The major Illinois crops—soybeans and corn—are producing high yields with natural rainfall and no irrigation. Average Illinois annual yields of corn in bushels per harvest acre have ranged as follows, during the past seven years:

1951	1952	1953	1954	1955	1956	1957
55	58	54	50.5	56	68	62

This would indicate that even the extreme dry year of 1954 did not greatly depress corn yields throughout the State. A corn yield of 202 bushels per acre was recorded in Champaign County in 1957, with no irrigation. Estimates made by the Departments of Agricultural Economics and Agricultural Engineering indicate that an investment of \$140 per acre for irrigation equipment requires an increase in crop yield of 14 to 24 bushels per acre of corn to break even in paying the fixed and operating costs. When \$100 per acre is invested in irrigation, 12 to 20 bushels increase per acre are required to break even. Thus it would seem that a 25 to 30 bushel per acre increase in corn yields is required in order to more than pay the costs of the irrigation, and 40 bushels of corn and higher would be a better goal to make irrigation pay.

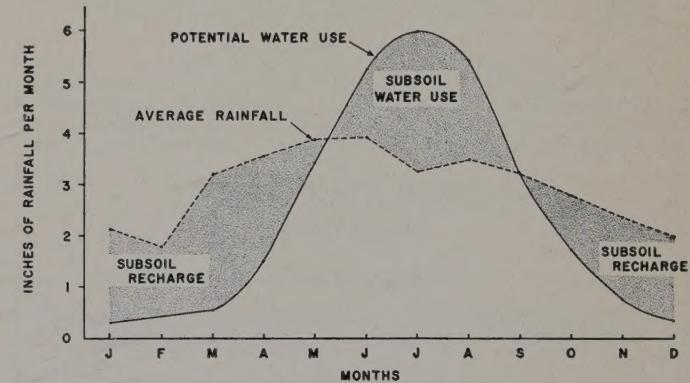


FIGURE 1 WATER DEMAND COMPARED WITH NORMAL RAINFALL

(6) Illinois farmers and farm operators generally lack irrigation training and experience. Successful farm operators are becoming highly skilled; however, few of them have had any training or experience in the use of irrigation equipment or in water application. This has led to numerous unsatisfactory results and failures even with the use of sound, well engineered irrigation equipment. Some farmers most interested in irrigation have made trips to western states to study methods used there and others are anxious to attend irrigation training courses and short courses. They have come to realize that irrigation cannot be used as an emergency stop-gap measure but must be set up and planned for regular use in management of the farm.

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REQUIREMENTS

Attention may now be turned to requirements for successful irrigation in Illinois. There seems little doubt that those farmers using irrigation will continue to use it and a number of other farmers may adopt irrigation as a regular practice in the next few years. In the author's opinion the factors listed below must be carefully considered in order to make irrigation a successful practice.

(1) An adequate water supply must be provided either from surface or from sub-surface sources and the cost for obtaining water must be reasonable. Furthermore the water must be available in critical seasons when irrigation is needed. Farm operators must come to think in terms of large quantities of water and understand the importance of proper application rates, quantities, and intervals between irrigations. Furthermore, they must be prepared to maintain their legal right to the water being used when controversies arise regarding water rights.

(2) Suitable well-designed and properly operated irrigation equipment must be used. It is essential that wells, pumps, pipes and sprinklers must be provided as a unit designed for a particular location. Generally, pumps and irrigation equipment must be purchased from one dealer who is prepared to help install and put the equipment into operation and will guarantee performance according to specifications. In order to aid irrigation farmers in this respect in obtaining satisfactory irrigation equipment, the Sprinkler Irrigation Association and the American Society of Agricultural Engineers have drawn up two sets of standards; (A) Minimum Requirements for the Design, Installation and Performance of Sprinkler Irrigation Equipment, an ASAE recommendation, and (B) Minimum Standards for Irrigation Equipment, a tentative ASAE standard. Suppliers and dealers of irrigation equipment should be prepared to show that they not only understand but can meet these standards in equipment they sell, install, and service.

(3) Sandy soils and clay-pan soils with low water holding capacity or relatively shallow root zones are most likely to need irrigation. Usually farmers recognize this need as they have crop failures in dry years. Detailed information on soils with respect to their soil and their suitability for irrigation can be obtained through the county farm advisers and soil conservation district offices.

(4) When irrigation is to be used, special consideration should be given the possibilities of growing high income crops. Irrigation has been most profitable in areas growing vegetables for market, gladiolas, strawberries, and hybrid seed corn. These crops either have high market value per acre or badly need rain in some particular time period of their growth. Favorable market conditions may also be of great help. For example, alfalfa may be irrigated where it can be sold to a dehydrating plant for alfalfa meal, or tomatoes may be grown with irrigation that makes it possible to market an early, high value tomato crop. Once irrigation is

established, it is often practical to irrigate some of the field crops, such as corn, soybeans and pastures.

(5) Farmers using irrigation successfully must adjust farm management practices to make good use of the irrigation. They must be prepared to make annual use of this equipment and they must have extra labor for this operation. Extra fertilizer and higher plant populations are also indicated. Even livestock management may be important.

(6) Adequate drainage should accompany any plans for irrigation in Illinois. Although drainage has been given careful consideration on lands irrigated in the arid regions of the west, it has generally been taken for granted by irrigators in the humid regions. Consequently crop losses have resulted on fields where irrigation applications have been followed by heavy rains. Some soils have good natural drainage and others are well tiled; but some suffer from poor drainage in some seasons and lack of sufficient soil moisture in others.

Recent attention has been given to the possibility of combined surface drainage systems with surface irrigation. Mr. Travis McAllister of Adams County, Illinois, is successfully surface draining a 340 acre farm in the Mississippi River bottoms. More recently he has also started the use of surface furrow irrigation of his corn. In this case he considers the surface drainage the primary practice and the furrow irrigation a by-product of the operation. He is fortunate in being able to get sizable quantities of water, from both drainage ditches and from a shallow sub-surface supply.

IRRIGATION ACTIVITIES

The University of Illinois and associated federal and state agencies have attempted to advise Illinois farm owners and operators regarding irrigation in recent years. The study by the Illinois Water Survey as reported in 1951 has been mentioned. This agency and the State Geological Survey give advice on wells and water supply. More recently the State Office of the U. S. Conservation Service and the University of Illinois, College of Agriculture have cooperated in preparation of irrigation guides for designing sprinkler systems and for surface irrigation. The Agricultural Engineering Department has prepared Extension Circular 763, entitled "Irrigation—Is It For You?" and a second circular on "Buying Your Sprinkler Irrigation System," is now on the press. On March 22, 1957, the first irrigation clinic was held at the University of Illinois in cooperation with these various agencies. Nearly one hundred irrigation salesmen, engineers, soils specialists, and interested farmers who attended requested that a second conference be held. It is scheduled to be held at the University of Illinois campus on March 20, 1958. The primary purpose of these irrigation activities is not to promote these of the practice but rather to prepare and guide interested land owners in the wise use of irrigation in Illinois agriculture.

Obituaries

Abner R. (Buck) Knight, (N '46) died suddenly in Champaign on November 9th. Mr. Knight, his wife and daughter were attending a Community Arts Play when he was stricken. He was rushed to the hospital—too late.

Buck was one of the best loved members of the Electrical Engineering Faculty of the University of Illinois. He was Emeritus but kept his interest alive in both technical and professional affairs. He was active in the Faculty theater group and played many character parts in the past four decades. His other intense interest was the Boy Scouts of America. In 1932 he was awarded its highest civilian honor, the Silver Beaver, but he was active in scout affairs to his death.

Professor Knight earned an electrical engineering degree at Ohio State University in 1909, an M.S. in E.E. at the University of Illinois in 1917 and the professional degree of Electrical Engineer at the University of Illinois in 1921.

I hold every man a debtor to his profession; from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves by way of amends to be a help and ornament thereunto.

Sir Francis Bacon

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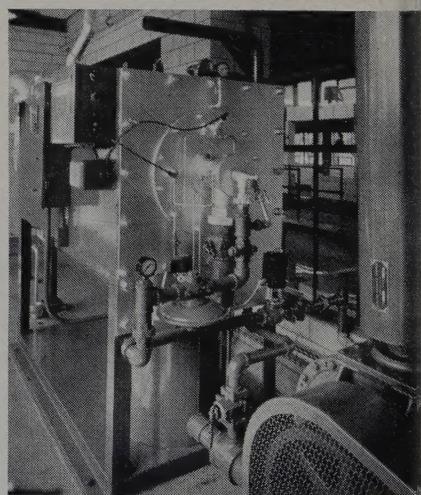
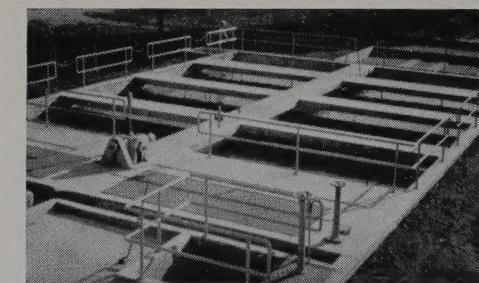
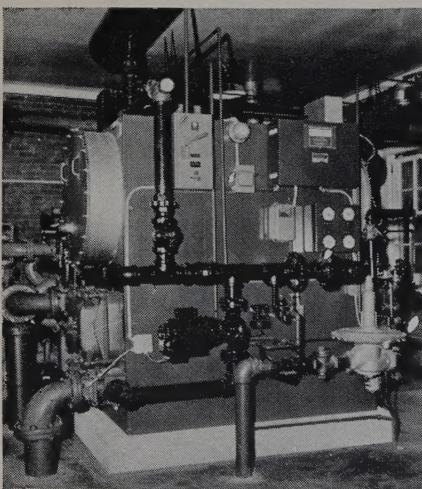
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COVER PICTURE

Fort Pike is located at the entrance to Pontchartrain lake. This lake is a shallow extension of the Gulf of Mexico just at the North edge of New Orleans. After purchase of the Louisiana Territory on April 30, 1803, Congress authorized the construction of the fort at a cost of \$600,000. This location of the fort was selected so as to prevent any unfriendly nation from using the lake as base of operation against New Orleans and American shipping on the lower Mississippi River.

In design, the fort consisted of two parts, the wall round a square enclosure 250 feet on a side, and a two-story structure for housing the officers and enlisted men. The structure and wall were constructed of brick throughout. The design of the main wall incorporated space for powder magazines, supply storage, prison cells, and a platform for mounting a dozen cannons. The entrance to one of the powder magazines can be seen in the background of the picture. A secondary wall was built in top of the main wall to provide protection for those firing the cannons. Like many early American fortifications, the outside wall was surrounded by a moat.

The soldiers quarters, shown in the left foreground, boasted an eighteen inch, solid brick wall. The small openings in the wall permitted close range fighting if the walls of the fort were overrun.

This fort is an example of engineering, probably

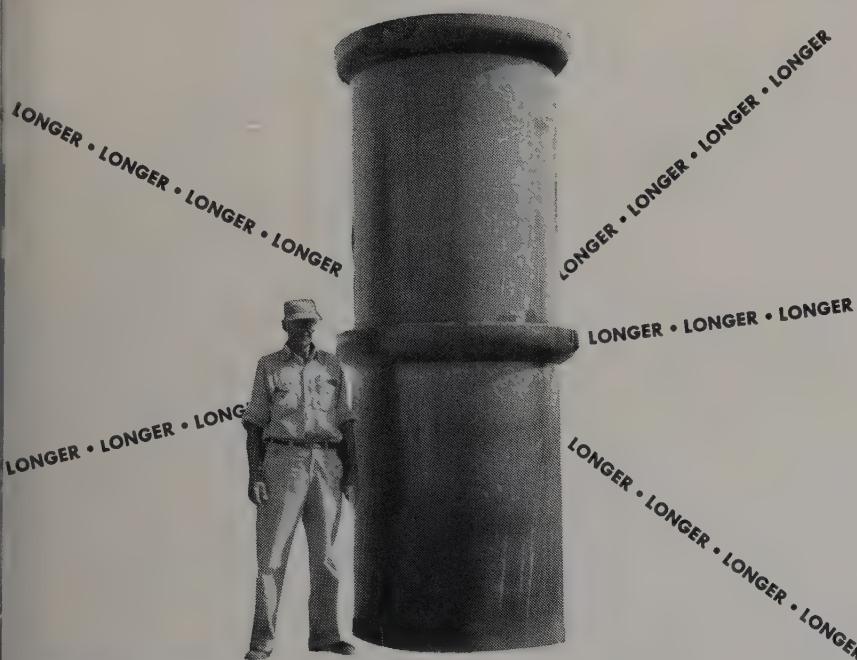
military, which played a very important part in our Country's history. Inadequacy in the materials available at the time of its construction, rather than the design, is reflected in its present state of deterioration.

JOHN DUBA—ASSISTANT CHICAGO MAYOR

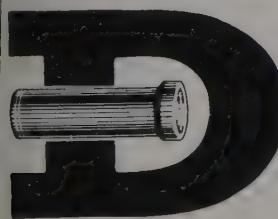
John G. Duba, N '51, received one of the most satisfying Christmas presents any man could be given, viz., a brand-new position and a handsome increase in salary. On December 23, Mayor Daley named John as Chicago's first Assistant Mayor at a salary of \$21,000 per year. The City Council suspended rules and approved the nomination unanimously.

John became a National Member of the Illinois Society in 1951 and was Assistant Professor of Civil Engineering at the Illinois Institute of Technology. After serving on the membership committee, he was appointed to the committee on Illinois Engineering Council Representatives. He was elected Vice President of the Council in 1957 and has just taken office as the Council's President. Also John has been elected Chicago Chapter Representative and will take office on April 12th.

With his wife and five children, this should have been a memorable Christmas. The Illinois Society extends its very best wishes to John Duba for a successful, happy term of office.



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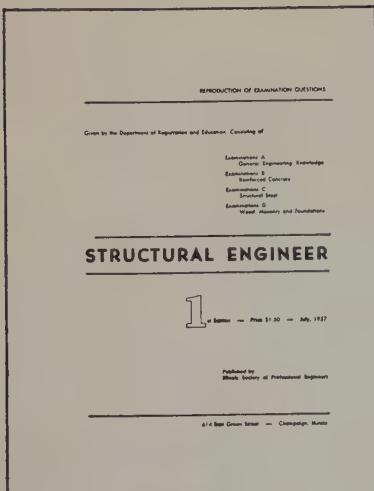
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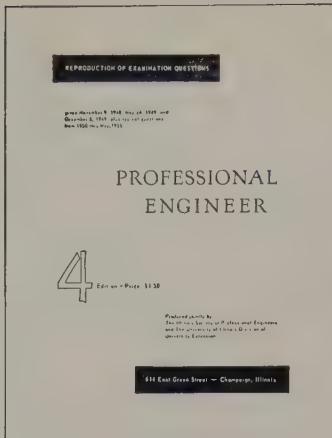
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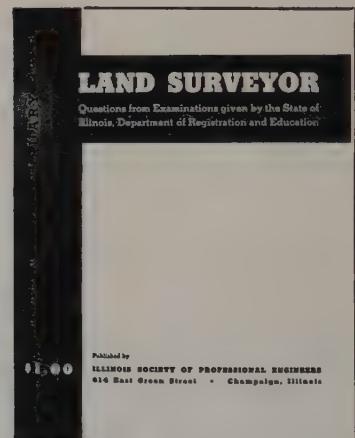


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UNIONS AT WESTINGHOUSE REJECTED

"The recent election result rejecting union representation by engineers of the Electronics Division, Westinghouse Electric Company, is further confirmation and support of our view that unions are not an acceptable mechanism to deal with the problems and aspirations of professional engineers," Garvin H. Dyer, president of the National Society of Professional Engineers said today. The spokesman of the national engineering society referred to the results of an NLRB-conducted election in which the engineers voted 171 to 115 against being represented for collective bargaining at the Baltimore, Md., plant, by the Salaried Employees Association, affiliated with the Federation of the Westinghouse Independent Salaried Unions.

"At the same time," Mr. Dyer continued, "we cannot be complacent about this further victory of professionalism over unionism when we note that a substantial percentage of engineers in this situation favored union representation. This indicates that we must recognize and reat the source of dissatisfaction which leads too many engineers, even though a minority, to look toward unionism for the solution of their professional problems. This is a challenge to industrial employers, the engineers themselves and the professional engineering society."

The election was the second one for the engineering employees, the first ballot resulting in a lack of a majority for any one of three choices—the white collar union, and engineering union, or no union. Prior to the run-off election, the white collar union and the company waged intensive campaigns among the engineers. The company challenged union claims of past accomplishments and held an invitational dinner for the engineers just before the election at which company officials expressed their views. The main speaker, Mr. B. M. Brown, vice president of the Baltimore Divisions of Westinghouse, told the engineers that the future of the Electronics Division was dependent on technical competence and superiority of work, and the type of people who could provide this competence and superiority were not the type to be found seeking the protection of a union.

Commenting on the need for outspoken and aggressive leadership in meeting union bids to represent professional engineers, Mr. Dyer said, "too often in the past management was inclined to adopt a 'hands off' attitude of neutrality. This sometimes resulted in engineers voting for union representation, not realizing the difficulties they would have in escaping from their plight when they found that such a form of union representa-

tion was contrary to their professional ideals and professional status and growth.

"Recent experience indicates that industrial management today recognizes its obligation to make its position clear on the effects of unionism for professional employees. It is equally important, of course, that management also continually analyze its policies and personnel procedures to meet the reasonable expectations of professional employees for professional recognition and status.

"The role of NSPE in this delicate, but all-important, problem has been and is to offer general and specific assistance to the professional employees and their employers based on our extensive studies in the employment practices field. Experience has shown conclusively that professional engineers and their employers must approach their problems in a cooperative spirit of teamwork to achieve the results which are best for both. We are highly gratified that a majority of engineers in the Westinghouse Electronics Division election subscribed to this type of professional thinking."

The National Society of Professional Engineers is composed of 43,000 members, all of whom are registered under the state engineering registration laws, through 45 member state societies and 350 local community chapters.

Engineers Must Shoulder Social as Well as Technical Responsibility

Engineers and scientists bear the responsibility not only for achieving technical progress, but for helping to guide society through the complex situations created by advances in science, according to a leading engineer addressing the Annual Meeting of The American Society of Mechanical Engineers. Harold F. Smiddy, vice president of the General Electric Company, made his remarks while accepting the Henry Laurence Gantt Gold Medal, awarded for outstanding achievement in the field of management.

Speaking on the topic of "Engineer-Manager Relationships," he urged engineers to take a deeper interest in policy decisions that are often left to managers. "We can not, with realism, separate our work from its purpose, no matter how intriguing, fascinating or self-satisfying the nature of that work may be."

He continued: "I don't see how you can turn your manager into a kind of seeing-eye dog to pick out your course for you, unless you admit in doing so your own blindness to the choice of the path to be followed, and

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your interest only in progressing along that path with maximum technical skill, no matter where, in what direction, or to what disastrous end such chosen path may lead.

"This gets directly to the heart of my deep qualms about the present course of Communist scientists—and not one with less about those scientists and others here in our own country who would have us now imitate the Russian approaches; rather than be creative enough, and—as Gantt so urgently pressed—industrious enough, to make greater progress by nobler ends.

"It is suddenly easy and popular today to clamor about our national need for more and better engineers; and to blame low teacher salaries, inadequate high school and college facilities, and poor parental guidance for the so-called failure of more youngsters to study mathematics, science and engineering. No few of our fellow engineers are indulging in just such outbursts and seem to be getting no small amount of self-satisfaction in the process.

"You will note that, in thus passing the blame around, one party to the situation is comfortably overlooked—namely, we engineers ourselves. But should we really let ourselves off that scot-free?

"There is embarrassing evidence to the contrary—notably in the curious, and now well-publicized, findings of the 1956 survey at Purdue University of why a large majority of some 15,000 high-schoolers around the country said 'no, thanks' when asked if they would like to make careers in science.

"The plain conclusion of this survey,' he said, 'is that what they don't like about scientists is scientists; and while that impression so overwhelmingly prevails, it is apparent we have some hard homework to do before going any farther.'

"The need for that blend of the resources of engineers and of businessmen, for which Towne so prophetically called, is thus doubly apparent to all of us here today who are presently charged with finding patterns and paths of simplicity through the complexities we have created; and charged with doing so both promptly and along lines which will calm the serious doubts of our mutual capacity to do so, which are a natural consequence of the dramatic evidence afforded by the little dead dog, whirling above us in Sputnik II, that those who threaten our liberties, our free way of life, and our very physical survival, are combining the skills of engineering and the administrative methods of the dictator to make such practical progress on our part correspondingly essential."

I do not care for juke-box tunes
That blare around me while I'm eating
Nor for the joker who inserts
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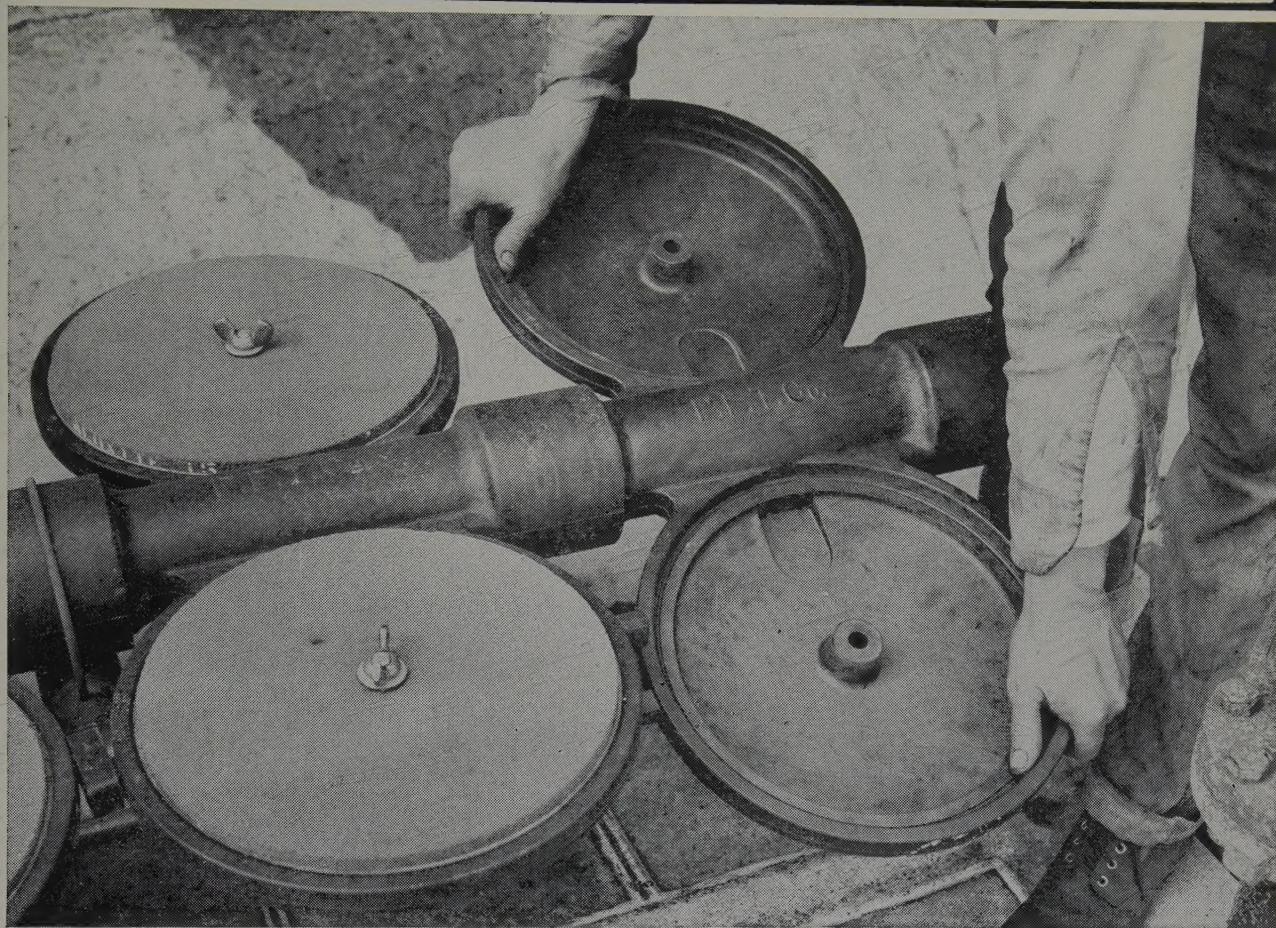
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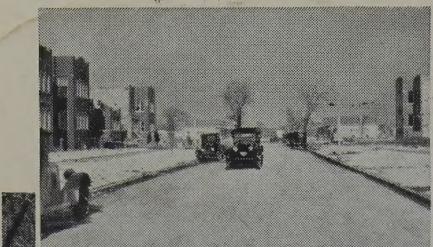
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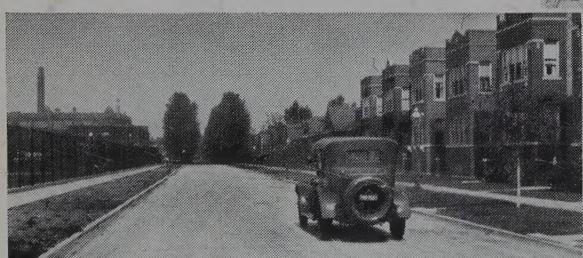
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DRAKE AVE., north of Addison St., was built in 1925. The photos were taken in 1925 and in 1955.

